documents do not support the Examiner's position that "about 2" includes 1.5 "based on basic mathematic principles and conventional scientific experimental practice."

Second, the question is not what "mathematic principles and conventional scientific experimental practice" would do with the number 1.5 or the number 1.7; the question is what does "about 2-3 psi" mean to those of ordinary skill in the fuel cell art. Since 3 is higher than 2, it suggests to some that about 2 means "2, very near 2, and higher than 2, up to about 3, and maybe slightly thereover".

In summary, the argument is believed to be backwards, and the citations from the internet do not teach that "about 2-3" begins at 1.5; further, that is not the issue: the issue is what does "about 2-3" mean to those skilled in the fuel cell art. Claim 4 was rejected as obvious over Dufner in view of Reiser, alleging that Reiser teaches that "pressure differential on the anode and cathode side of the fuel cell is a results effective variable." That is believed to be not true; once again, the rejection reasoning seems to be backward.

First, there are allegations in the rejection that are the creation of the Office, and not found in Reiser. In the Advisory Action, second paragraph, about 7 lines from the bottom, the statement "The movement of product water from the cathode side of the membrane of the membrane electrode assembly toward the corresponding coolant field directly affects the performance of the fuel cell" is not found in Reiser. The following sentence "Similarly, the prevention of the membrane drying out and the anode flooding directly affects the performance of the fuel cell" is not found in Reiser. Two and three sentences later are not found in Reiser: "If an unsuitable pressure differential is chosen for a given set of operating conditions, the fuel cell may not operate properly. The predetermined pressure differential on either side of the membrane electrode assembly directly affects fuel cell performance." What Reiser does say is, "The resulting ΔP will cause product water appearing on the cathode side of each membrane to be pumped through the fine pore plates into the coolant water flow field." Reiser does not say that this

movement of the water "directly affects the performance of the fuel cell," as is alleged in the Advisory Action.

Reiser also says, "The fuel reactant (anode) flow field pressure will be maintained at a level which allows coolant water migration from the coolant loop through the fine pore plates toward the membrane, but which prevents flooding of the anode surface of the membranes with coolant water." Reiser does not say that this water migration without flooding the anode "directly affects the performance of the fuel cell" as is alleged in the Advisory Action.

Reiser states that "operating conditions will require that the oxidant gas pressure in the cathode flow field 29 exceed the coolant pressure in the coolant flow field 31, 32 by a predetermined ΔP so as to ensure movement of the product water". But Reiser does not say that this movement of the product water "directly affects the performance of the fuel cell" as is alleged in the Advisory Action.

Reiser says, "the fuel gas reactant pressure in the anode flow fields should also exceed the coolant water pressure by a second predetermined ΔP which will allow appropriate migration of water toward the anode side of the membrane 21 to prevent membrane dry out, but will not allow a degree of water migration that would flood the anode surface of the membrane 21." But Reiser does not say that this migration without flooding "directly affects the performance of the fuel cell" as alleged in the Advisory Action.

Reliance on the statement at the bottom of column 4 to support the allegation that the pressure differential "is a results effective variable" is believed to be improper because it is backwards.

"The ΔP's needed to properly operate the power plant may vary depending on power output...." This statement says that the ΔP's will depend on power output; the allegation for this rejection is that the power output will depend on the ΔP, which is backwards.

"The ΔP's needed to properly operate the power plant may vary depending on...plant size...." This statement says that the ΔP's depend on plant size; plant

size is not a result; and plant size is not determined by ΔP, in any case. The allegation for this rejection is that plant size depends on the ΔP, which is backward.

"The ΔP's needed to properly operate the power plant may vary depending on ...internal pressures of reactants...." The ΔP's depend upon internal pressures; the internal pressures are not determined by the ΔP's; in any event, the internal pressures of the reactants are not a result, and therefore ΔP cannot be a result effective variable based upon internal pressures. The allegation for this rejection is that internal pressures of the reactants depend on the ΔP, which is backward.

"The ΔP's needed to properly operate the power plant may vary depending on ...the like." The only possible parameter which could be deemed to be a result is power output: "plant size, internal pressures of reactants, and the like" are not "results". And clearly, Reiser does not teach that power output depends on ΔP's: Reiser teaches the converse. This argument has no basis in fact.

To have "a results effective variable", there must be a teaching that within a range of some parameter, a range of a corresponding, dependent, variable result will be achieved. That certainly is not the case here. It is totally absent from Reiser.

All of the arguments hereinbefore are applicable to both claims 4 and 5, allowance of which is hereby requested.

Respectfully submitted,

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